Amendment to the Claims

In the Claims:

Please amend Claims 29, 34, 35, and 45 as follows:

1. (Original) A medical simulator for training ultrasound operators to perform craniosynotosis screenings using ultrasound, comprising a substantially life size model of a human head, said model including at least one simulated patent skull suture, an echogenicity of each simulated patent skull suture enabling the simulated patent skull suture to be readily distinguishable in an ultrasound image of said model.

2. (Original) The medical simulator of Claim 1, wherein said model is at least in part fabricated from a first material, and each simulated patent skull suture comprises an opening formed in said first material.

3. (Original) The medical simulator of Claim 2, wherein each opening corresponding to a simulated patent skull suture is filled with a second material, an echogenicity of the second material being different from an echogenicity of the first material.

4. (Original) The medical simulator of Claim 3, wherein the second material is hypoechoic.

5. (Original) The medical simulator of Claim 3, wherein the echogenicity of the second material is lower than the echogenicity of the first material, such that in an ultrasound image of the model, portions of the model corresponding to the first material appear brighter in contrast than portions of the model corresponding to the second material.

6. (Original) The medical simulator of Claim 3, wherein a scalp portion of the model is covered with a layer of the second material.

7. (Original) The medical simulator of Claim 3, wherein the second material comprises a mixture of a starch and a glue.

8. (Original) The medical simulator of Claim 7, wherein the glue is a casein-based glue.

9. (Original) The medical simulator of Claim 7, wherein the glue is a synthetic resin-based glue.

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10. (Original) The medical simulator of Claim 2, wherein at least one simulated patent skull suture corresponds to at least one of a simulated patent coronal skull suture and a simulated patent lambdoid skull suture, and wherein each opening corresponding to a simulated patent coronal skull suture is beveled, and each opening corresponding to a simulated patent lambdoid skull suture is beveled.

11. (Original) The medical simulator of Claim 2, wherein at least one opening corresponding to a simulated patent skull suture corresponds to at least one of a simulated patent sagittal skull suture and a simulated patent metopic skull suture, so that opposed walls of each opening corresponding to a simulated patent sagittal skull suture exhibit an end-to-end configuration, and opposed walls of each opening corresponding to a simulated patent metopic skull suture exhibit an end-to-end configuration.

12. (Original) The medical simulator of Claim 3, further comprising at least one simulated fused skull suture.

13. (Original) The medical simulator of Claim 12, wherein each simulated fused skull suture comprises said first material.

14. (Original) The medical simulator of Claim 12, wherein each simulated fused skull suture comprises an opening formed in said first material, each opening corresponding to a simulated fused skull structure being filled with a third material, an echogenicity of the third material being substantially distinguishable from the echogenicity of the second material, so that each opening corresponding to a simulated fused skull suture can be readily distinguished from an opening corresponding to a simulated patent skull suture in an ultrasound image of said model.

15. (Original) The medical simulator of Claim 14, wherein the echogenicity of the third material is substantially similar to the echogenicity of the first material, such that in an ultrasound image of the model, portions of the model comprising the first material are not readily distinguishable from portions of the model comprising the third material.

16. (Original) The medical simulator of Claim 14, wherein the third material comprises a synthetic elastomer.

17. (Original) The medical simulator of Claim 16, wherein the synthetic elastomer comprises dimethyl siloxane, hydroxy-terminated polymers, and silica.

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18. (Original) The medical simulator of Claim 12, further comprising an opaque layer configured to cover each simulated patent skull suture and each simulated fused skull suture, so that a trainee cannot readily visually determine whether a specific skull suture is patent or fused by visually inspecting the model.

19. (Original) The medical simulator of Claim 1, further comprising an opaque layer configured to cover a scalp portion of the model, so that a trainee cannot readily visually locate each simulated patent skull suture by visually inspecting the model.

20. (Original) The medical simulator of Claim 1, wherein a doll's head is utilized for the substantially life size model of a human head.

21. (Original) A medical simulator adapted to be used to train ultrasound operators to perform craniosynotosis screenings using ultrasound, comprising a substantially life size model of a human head, said model including at least one opening corresponding to a simulated patent skull suture, wherein a difference in the echogenicity of each at least one opening relative to the echogenicity of portions of the model not corresponding to a simulated patent skull suture enables each simulated patent skull suture to be identified in an ultrasonic image.

22. (Original) The medical simulator of Claim 21, wherein each simulated patent skull suture is filled with a hypoechoic material to enhance the difference in the echogenicity of the simulated skull suture relative to that of portions of the model not corresponding to a simulated patent skull suture.

23. (Original) The medical simulator of Claim 21, wherein said model is fabricated from a first material, and each opening corresponding to a simulated patent skull suture is filled with a second material, an echogenicity of the second material being substantially different than the echogenicity of the first material, so that each opening corresponding to a simulated patent skull suture can be readily distinguished from the first material in an ultrasound image of said model.

24. (Original) The medical simulator of Claim 23, wherein the echogenicity of the second material is lower than the echogenicity of the first material, such that in an ultrasound image of the model, portions of the model comprising the first material will appear brighter in contrast than portions of the model comprising the second material.

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25. (Original) The medical simulator of Claim 23, further comprising at least one opening corresponding to a fused skull suture, each opening corresponding to a simulated fused skull suture being filled with a third material, an echogenicity of the third material being substantially different than the echogenicity of the second material, so that each opening corresponding to a simulated fused skull suture can be readily distinguished from an opening corresponding to a simulated patent skull suture in an ultrasound image of said model.

26. (Original) The medical simulator of Claim 21, wherein:

(a) each opening corresponding to a simulated patent skull suture intended to represent a patent coronal skull suture is beveled;

(b) each opening corresponding to a simulated patent skull suture intended to represent a patent lambdoid skull suture is beveled;

(c) each opening corresponding to a simulated patent skull suture intended to represent a patent sagittal skull suture is formed such that opposed walls of the opening exhibit an end-to-end configuration; and

(d) each opening corresponding to a simulated patent skull suture intended to represent a patent metopic skull suture is formed such that opposed walls of the opening exhibit an end-to-end configuration.

27. (Original) An ultrasound trainer configured to train ultrasound operators to perform craniosynotosis screenings using ultrasound; comprising a substantially life size model of a human head, said model including at least one simulated patent skull suture and at least one simulated fused skull suture, an echogenicity of each simulated patent skull suture enabling the simulated patent skull suture to be readily distinguishable from each simulated fused skull suture in an ultrasound image of said model.

28. (Original) A method of making an ultrasound trainer configured to train ultrasound operators to perform craniosynotosis screenings using ultrasound, comprising the steps of:

(a) providing a life size model of a human head; and

(b) forming at least one simulated patent skull suture in the model that is readily distinguishable in an ultrasound image of the model.

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29. (Currently Amended) A method of making an ultrasound trainer configured to train ultrasound operators to perform craniosynotosis screenings using ultrasound, comprising the steps of:

(a) providing a life size model of a human head;

(b) determining an anatomically correct location of each skull suture on the model; and

(c) based on the locations thus determined, forming a plurality of openings that correspond to simulated patent skull sutures in the model, in anatomically correct locations, such openings changing an echogenicity of the model proximate the locations thus determined, enabling the simulated patent skull sutures to be identified in an ultrasound image of the model.

30. (Original) The method of Claim 29, wherein the step of providing a life size model of a human head comprises the step of providing a doll's head.

31. (Original) The method of Claim 29, wherein the step of forming the plurality of openings in the model comprises the step of cutting an opening in the model at the anatomically correct locations for each simulated patent skull suture.

32. (Original) The method of Claim 29, wherein the step of forming the plurality of openings in the model at the anatomically correct locations comprises the step of determining if the simulated patent skull suture corresponding to the opening to be formed is one of a simulated patent coronal skull suture and a simulated patent lambdoid skull suture, and if so, beveling the opening.

33. (Original) The method of Claim 29, wherein the step of forming the plurality of openings in the model at the anatomically correct locations comprises the step of determining if the simulated patent skull suture corresponding to the opening to be formed is one of simulated patent sagittal skull suture and a simulated patent metopic skull suture, and if so, forming the opening such that opposed walls of the opening exhibit an end-to-end configuration.

34. (Currently Amended) The method of Claim 29, further comprising the step of filling each opening formed in the model at the anatomically correct locations with a hypoechoic material, an echogenicity of the hypoechoic material further enabling each opening corresponding to a simulated patent skull suture to be readily distinguishable in an ultrasound image of the model.

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35. (Currently Amended) The method of Claim 29, wherein the step of providing a life size model of a human head comprises the step of providing a model in which a scalp of the model is formed out of a first material, and further comprising the step of filling each opening formed in the model at the anatomically correct locations with a second material, an echogenicity of the second material being different than an echogenicity of the first material, such that each opening corresponding to a simulated patent skull suture can be more readily identified in an ultrasound image of the model.

36. (Original) The method of Claim 35, wherein the second material is hypoechoic.

37. (Original) The method of Claim 35, wherein the echogenicity of the second material is lower than the echogenicity of the first material, such that in an ultrasound image of the model, portions of the model corresponding to the first material appear brighter in contrast than portions of the model corresponding to the second material.

38. (Original) The method of Claim 35, further comprising the step of covering the scalp of the model with a layer of the second material.

39. (Original) The method of Claim 35, wherein the second material comprises a composition of starch and glue.

40. (Original) The method of Claim 35, further comprising the step of forming at least one simulated fused skull suture in the model.

41. (Original) The method of Claim 40, wherein the step of forming at least one simulated fused skull suture in the model comprises the step of marking the model to indicate the correct anatomical location of the simulated fused skull suture, without forming an opening in the model at that location.

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42. (Original) The method of Claim 40, wherein the step of forming at least one simulated fused skull suture in the model comprises the steps of:

(a) forming an opening in the model at an anatomically correct location for each simulated fused skull suture; and

(b) filling each opening formed for a simulated fused skull suture with a third material, an echogenicity of the third material being substantially different that the echogenicity of the second material, such that each opening corresponding to a simulated fused skull suture can be readily distinguished from opening corresponding to a simulated patent skull suture in an ultrasound image of said model.

43. (Original) The method of Claim 42, wherein the echogenicity of the third material is substantially similar to the echogenicity of the first material, such that in an ultrasound image of the model, portions of the model comprising the first material are not readily distinguishable from portions of the model comprising the third material.

44. (Original) The method of Claim 29, further comprising the step of covering a scalp of the model with an opaque cover, such that a trainee cannot readily visually determine whether a specific skull suture is patent or fused by visually inspecting the model.

45. (Currently Amended) A method of using an ultrasound trainer to train ultrasound operators to perform craniosynotosis screenings using ultrasound, comprising the steps of:

(a) providing a life size model of a human head, the model including a plurality of simulated skull sutures disposed at anatomically correct locations, the plurality of simulated skull sutures including at least one patent suture that can be identified based on a difference in echogenicity between the at least one patent suture and other portions of the model;

(b) using an ultrasound imaging tool to produce an image of each simulated skull suture in the model; and

(c) evaluating the image of each simulated skull suture to determine if the simulated skull suture is patent or fused.

46. (Original) The method of Claim 45, wherein the plurality of simulated skull sutures includes a simulated sagittal skull suture, a simulated metopic skull suture, a simulated coronal skull suture, and a simulated lambdoid skull suture.

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47. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool to collect an image from each simulated skull suture comprises the step of producing an image of the simulated metopic skull.

48. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool to collect an image from each simulated skull suture comprises the step of producing an image of the simulated sagittal skull suture at the anterior, middle, and posterior locations.

49. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool to produce an image of each simulated skull suture comprises the step of producing an image of the simulated coronal skull suture at the right medial, right lateral, left medial, and left lateral locations.

50. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool to produce an image of each simulated skull suture comprises the step of producing an image of the simulated lambdoid skull suture at the right medial, right lateral, left medial, and left lateral locations.

51. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool to produce an image of each simulated skull suture comprises the steps of:

(a) producing an image of the simulated sagittal skull suture at the anterior, middle, and posterior locations;

(b) producing an image of the simulated metopic skull suture;

(c) producing an image of the simulated coronal skull suture at the right medial, right lateral, left medial, and left lateral locations; and

(d) producing an image of the simulated lambdoid skull suture at the right medial, right lateral, left medial, and left lateral locations.

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